



The University of Vermont

Farmer PES Program Proposals

Vermont Payment for Ecosystem Services Technical Research Report #6 B

Prepared for the Vermont Soil Health and Payment for Ecosystem Services Working Group

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THE UNIVERSITY OF VERMONT
EXTENSION

SECTION 1: INTRODUCTION

The aim of this project is to summarize three farmer-drafted proposals for designing a Vermont Payment for Ecosystem Services (PES) program and compare those programs with the VT PES Technical Research Report #6 to the Vermont Soil Health PES Working Group. The three proposals summarized here are:

1. CSP+, presented by Guy Choiniere
2. VT PES Observed Metrics Approach, presented by Scott Magnan
3. VT Healthy Soil Protection & Restoration Act, presented by Stephen Leslie

As directed by the VT PES Working Group, this review was completed to assist the Working Group's framing of a VT-focused PES. All three farmers presented their proposals to the VT PES Working Group. The information included in this summary was collected through documents drafted by the farmers, presentations given to the Working Group, and personal interviews with the farmers. Information about other programs that relate to the farmer proposals was gathered during research for the Task 6 PES Program Review. Accordingly, readers of this report may want to reference the Task 6 report.

Following this Introduction, Section 2 of this report summarizes how each of the programs address the criteria included in the program tables. A discussion in Section 3 will compare the farmer proposals to existing PES programs, and Section 4 will consider how the three proposals compare with the recommendations presented in the Task 6 program review.

SECTION 2: PROGRAM REVIEW

2.1 PES Program Background

All three programs were designed and presented to the Working Group at different times. Though all programs lay out a concept for design, none have comprehensively established all criteria and are still open for editing and suggestions. Some important remaining open questions across all three programs include how they will be funded, how much farmers should be paid for ecosystem services, and what farmers should be eligible for participation.

1. CSP+

The CSP+ proposal was initially introduced in May 2021 by Guy Choinere to the Vermont Small Farm Group. Feedback from the Working Group and farmers was incorporated into the proposal and presented to the Working Group in July and October 2021.

CSP+ aims to supplement existing conservation programs by addressing the gaps and shortcomings experienced by farmers and identified by the Working Group. CSP+ particularly considers supplementing the Conservation Stewardship Program (CSP) administered by the Natural Resource Conservation Service, but could either alternatively or additionally supplement other existing programs like the Environmental Quality Incentives Program (EQIP).

The proposal suggests a \$10,000 base payment to participating farmers who then additionally receive per-acre payments reflecting different 'tiers' of stewardship that are defined by various practices and performance metrics. This is different from the CSP program, which does not offer different tiers of stewardship. Additionally, CSP does not offer a base payment and instead distributes payments on a per acre basis, though it does ensure a minimum payment of \$1,500 per year and a maximum of \$40,000 per year, regardless of acreage. Critically, Guy Choinere says that the intent of the proposal is that the state is

not meant to take on the full expense of the program, and as a supplement to federal programs would only cover expenses to fill in the gaps of existing programs.

2. VT PES Observed Metrics Approach

The VT PES Observed Metrics Approach was drafted by Scott Magnan and aims to 1) “identify (enroll) farms that have a high aptitude for building soil health,” 2) “reward the farms that are both economically and environmentally sustainable,” 3) “use metrics that can be done at the farm level,” and 4) “encourage collaboration between farmers and TSPs.” Scott Magnan submitted a document outlining his proposal and held a discussion with members of the Working Group in October 2021 and gave a public presentation to the entire Working Group in December 2021.

The Observed Metrics Approach uses a point-based system informed by categories of measured outcomes to reflect stewardship of up-to-15 acre management zones. The payments are determined by the total number of points multiplied by the number of acres within the management zone. Contrary to the other two proposals, the Observed Metrics Approach pays strictly for outcomes and places the burden of risk, and responsibility for coordinating measurements, on the participating farmer.

3. VT Healthy Soil Protection & Restoration Act (VT HSP&R Act)

The VT HSP&R Act was drafted by Stephen Leslie as an approach for the state of Vermont to meet the greenhouse gas emission reduction targets established in the VT Global Warming Solutions Act by “[elevating] healthy soil as an essential ingredient to solve the climate and ecological crisis.” The proposal aims to be a “progressive soil health policy reflective of a radical shift in societal priorities---where soil is recognized as ‘basic infrastructure.’” Stephen Leslie submitted a document outlining his proposal to the Working Group in October 2021 and presented the proposal to the Working Group in December 2021.

The VT HSP&R Act would begin with a phased transition for agriculture and forestry by implementing Soil Health Management Systems to restore soil health to pre-human-degradation levels. The proposal would rely on collaboration with a fortified network of Conservation Districts to coordinate teams of experts to work with land managers to implement and troubleshoot conservation strategies. Incentives would be based on implemented practices determined through a comprehensive management plan.

2.2 Program Management

All three proposals suggest a program that is government run. All programs envision substantial involvement by technical service providers and state agencies—none identify a specific organization to administer the program, though the VT HSP&R Act considers Conservation Districts for this role.

2.3 Program Market Scope

All proposals are intended to be voluntary and funded by the Vermont State Government, though the Observed Metrics Approach considers eventually adapting to participate in an ecosystem services market.

2.4 Eligibility

The Observed Metrics Approach is unique among the proposals in that everyone can participate and there are no eligibility requirements. However, the structure of the point system makes it nearly impossible for individuals that don’t meet certain criteria to perform well. For instance, in the case that a farm is not RAP compliant or does not keep its lands in production, that farm will immediately lose 20% of its

possible final score and will at best be able to achieve the lowest payment rate (\$50/acre) if they have no other point reductions; losing only an additional 5 points will cause the farm to receive no compensation at all.

The other two proposals require RAP compliance, and CSP+ requires that the farmers collaborate with technical service and business advisors to develop a comprehensive farm-management plan (the VT HSP&R Act also suggests a strong holistic planning element). While both programs are specific to agricultural and managed forest land, the vision for the VT HSP&R Act is envisioned to eventually extend to other sectors and include all landowners that can generate ecosystem services.

2.5 Pay for Practice or Pay for Performance

All three proposals include elements of outcome quantification, but in different ways.

CSP+ includes opportunities for compensation linked to both practices and performance, though performance-based payments are only included in the upper two tiers (note that these tiers still also include practice-based payments).

The Observed Metrics Approach pays strictly for measured outcomes (though it does include a deduction for a percent of impervious land area without including any quantified impacts on ecosystem services from that area) and does not specify any practices.

The VT HSP&R Act pays for practices but envisions measuring outcomes on a selection of pilot farms to ensure the effectiveness of different practices for improving Vermont soil health and inform planning for other farmers.

2.6 Required Data & Verification Methods

Though neither the CSP+ or VT HSP&R Act have specific data requirements, the emphasis that both proposals place on comprehensive planning with technical service providers indicates that farmers will be required to share a wide range of relevant information with advisors. The Observed Metrics Approach will require soil samples, profit and loss statements, measurements from a soil test pit, and possibly NDVI data.

All proposals include a 3rd party verifier to establish confidence and trustworthiness in the program. Though none of the proposals concretely specify a 3rd party, all consider the potential for verification from other farmers or from technical service providers (CSP+ and the VT HSP&R Act emphasizes a role for Conservation Districts). The Observed Metrics Approach also considers having Crop Advisors perform verifications.

The VT Healthy Soil Protection & Restoration Act and CSP+ proposals both envision annual verifications. The Observed Metrics Approach would allow for different verification schedules for different management structures—while most farms would be verified annually, some farm-types (like permanent hay or sugaring) could be verified less-than annually for some or all metrics.

2.7 Payments

In addition to a \$10,000 per year base payment, the CSP+ program provides per-acre payments of \$10, \$60, and \$90 for Steward, Soil Builder, and Regenerative management tiers, respectively.

Payments in the Observed Metric Approach are determined by the total number of points achieved by the farmer, with a possible total of 100 points; payments are distributed on a per-acre basis. Farms reaching less than 75 points receive no compensation; farms reaching between 75-80 points receive \$50; farms between 85-90 points receive \$150; farms between 90-95 points receive \$350; and farms that achieve over 95 points receive \$500.

The payment rates for the VT Healthy Soil Protection & Restoration Act are still to be determined.

SECTION 3: DISCUSSION

The three farmer proposals each offer unique approaches to compensating farmers for building and maintaining ecosystem services through land stewardship. Among the three proposals, the Observed Metrics Approach is distinct from the other two in many ways, while CSP+ and the HSP&R Act share many attributes; in fact, Mr. Leslie has stated that he thinks his proposal is “completely compatible” with CSP+.

All three programs base payments on an assumed overall benefit for society, but do not base payments on a quantified social gain (such as avoided costs)—in this way they are similar to all programs in the Task 6 Program Review.

1. CSP+

The CSP+ proposal is unique from the other programs by using state funding to supplement federal programs to fill any gaps in eligibility and equity. Though the baseline payment’s ambition is also not reflected in other programs, the intent to include an up-front payment that reduces the risk to farmers in performance-based programs is also included in the VT PfP program and, in some cases, the TruTerra program.

The tiered payments associated with levels of stewardship in this proposal is most similar to the payment scheme of the Sustainable Farming Incentive. However, offering payments for both practices and performance is not shown in the other reviewed programs.

In the tiers where CSP+ offers practice-based payments the potential breadth of eligible practices makes it similar to the large-government run programs like CSP, Glastir, and the Sustainable Farming Incentive. Because of this, the program would need to be carefully designed so that, as it strives to fill in the gaps of the existing programs, it does not perpetuate the inflexibility, poor communication, and overly prescriptive issues raised by participants of those programs.

2. Observed Metrics Approach

The Observed Metrics Approach and Glastir both use point-based systems to determine compensation. The differences in how the point systems are used reflect the overall differences between the two programs. Both designs link compensation directly to the number of points accrued by the landowner, but as a practice-based program participants in Glastir aim for a fixed, predetermined number of points at the time of their enrollment to later receive a fixed, predetermined payment. In the Observed Metrics Approach, however, points are counted at the end of a verification cycle and reflect the farmer’s actual performance to determine payments, and those payments can be increased or lowered.

One unique element of the Observed Metrics Approach is the Oak tree test, which assumes that the soil around an Oak tree will indicate the best possible soil health measurements for each farm’s conditions (Scott Magnan suggests changing this to a Maple tree test, to be more reflective of Vermont). The

proposal overall does not include baseline measurements and suggests paying farmers to meet thresholds consistent across all participants. The reliance on threshold measurement exposes the Approach to the general concerns raised about threshold-based programs, like being inequitable for farms with certain soil types that may struggle more to meet a given threshold. However, the Oak tree test offers a way to set a threshold that will be unique to each farm and can therefore account for environmental factors that would disadvantage some farmers. Though the Oak tree test is currently included as a bonus opportunity and would account for a small amount of total possible points, Scott Magnan said he has considered weighing this test more heavily in the proposal.

Of the ten programs reviewed in the Task 6 report only Lake Taupo and VT PfP also combine payments for performance with threshold measurements. Unlike the Observed Metrics Approach, these two programs use modelling software to project (rather than directly measure) outcomes. Both of these programs are different from this proposal in that they focus on one specific outcome. Additionally, Lake Taupo and VT PfP both focus on meeting a threshold for reducing a metric that is linked to reducing and ecosystem disservice (nitrogen and phosphorus pollution, respectively) rather than measuring the growth of an ecosystem metric.

3. HSP&R Act

Although the HSP&R Act proposal does not intend to pay for outcomes, Stephen Leslie would like the program to measure outcomes on a selection of pilot farms in each watershed. Though these farms would not receive payments on the measured outcomes, the data would be used to ensure that the practices are resulting in the expected improvements and inform how practices are implemented on other farms. This aspect of the proposal is similar to Glastir's 'Glastir Monitoring & Evaluation Programme.

Like CSP+, the focus on paying for a wide-range of pre-determined practices echoes the large-government run programs like CSP, Glastir, and the Sustainable Farming Incentive, and the proposal would need to be carefully designed to avoid the complaints raised by participants in those programs (inflexible, overly prescriptive, poor communication to farmers).

SECTION 4: PES PROGRAM RECOMMENDATIONS

The Task 6 PES Program Review identified six components of successful PES programs. This section will briefly consider how each farmer proposal addresses these components.

1. Prioritizing Fairness

The Task 6 Program Review defined a fair program design as one that addresses several issues of access, communication, and eligibility. Some of these issues must be considered by administrators (such as publicization & communication), but the farmer proposals offer some valuable ideas for fair implementation. All farmers propose improved and effective communication between participants and administrators to overcome the communication issues identified in programs like Glastir.

CSP+ is in many ways designed around program fairness, as one of its primary objectives is to act as a supplement to the Conservation Stewardship Program that addresses gaps in access and equity. The proposal specifically aims to include farms that are excluded by the current ranking system. CSP+ also suggests supporting new and historically underserved farmers by offering an increased payment rate for farmers that enroll in a 'beginner farmer reserve program' that "[allows] an HU farmer to bid on a farm before it gets put onto the open market."

The Observed Metrics Approach has no eligibility requirements, but the design of the program will make it difficult for some farmers to participate if they have not already invested in soil health. Even though some farms will have great difficulty, by not including any strict eligibility requirements for the program, leaves the door open to ingenious solutions to meet the program objectives in unanticipated and flexible ways.

The HSP&R Act does not detail any specific actions for fairness but notes that a program will need to consider site characteristics and context to account for the varying conditions between farms. Additionally, because Stephen Leslie suggested that his proposal is fully compatible with CSP+, the HSP&R Act could also encompass the fairness measures listed for that program.

2. Hybridizing compensation in a tiered approach to include pay for practice and performance

Of the three programs, CSP+ is the only one that already lays out a tiered approach to include pay for practice and performance, though it deviates by also offering a base payment (but it should be noted that the base payment is not incompatible with a tiered program design). The HSP&R Act does not specifically suggest such an approach, but Stephen Leslie's statement that his program is compatible with CSP+ indicates that his proposal could still incorporate that approach. The Observed Metrics Approach is more strictly focused on offering payments and likely would not incorporate a tiered payments system that pays for both practices and performance.

3. Establishing Credibility

The proposals do not explicitly address credibility concerns. However, they do all encourage strong support for technical support services, along with other farmers, to be engaged in the program, which could contribute to the program's overall credibility. Additionally, all three proposals suggest third party verification measures.

Other measures of credibility depend on the monitoring and verification tools used in the program. CSP+ and the HSP&R Act do not directly specify particular metrics or measuring tools, so ensuring credibility will depend on identifying the best available options to include in those programs.

The Observed Metrics Approach does lay out several metrics and measuring tools to be used, and one of the great strengths of this proposal lies in the credibility gained by using straightforward, clearly defined metrics that offer little room for varying interpretations.

4. Guaranteeing Longevity

None of the farmer proposals have identified a particular contract length. They all aim to offer long-term incentives for farmers, but through different mechanisms. The CSP+ as well as the HSP&R Act could accommodate multi-year contracts. The Observed Metrics Approach could give farmers a continued opportunity to evaluate and score their soils. Stephen Leslie emphasizes permanence's importance in his proposal and notes its implications for equity, where he states that "carbon farming is a long-term proposition. Land managers willing and able to practice regenerative principles and practices will require a steady guaranteed income. Every farm will experience ebbs and flows in sequestration, but there is not a farm in Vermont that can't build more soil organic matter. It is this cumulative effect that is exponentially important and why payment should be equitable across the board for all land managers participating in soil health management regardless of acreage or income."

Longevity of any program will depend on a permanent and consistent funding source for a PES program, which still needs to be identified.

5. Administering through a government to create demand

All proposals already envision beginning as state government administered programs.

6. Identifying whether determine payments based on baseline on threshold measurements

The Task 6 PES Program review identifies that a decision to use baseline or threshold measurements will depend on other factors of program design. The CSP+ and HSP&R Act proposals could currently accommodate either, and because of the blended approach to pay for both performance and practices will probably also use both thresholds and baselines in different circumstances. The Observed Metrics Approach is based on using a threshold measurement (as discussed above), and by incorporating the Oak tree test, or stratifying thresholds by soil texture, could bridge some of the concerns about baseline measurements.

SECTION 5: CONCLUSION

The three farmer-drafted proposals include elements that are similar to existing programs and other elements that are entirely new or unique. These farmer-drafted proposals highlight the importance of measuring soil health, either as a foundation for payment rates or to verify outcomes. They also identify program elements and payment approaches that simplify some of the complexity inherent in a program that aims to reward multiple outcomes through the use of thresholds and scoring systems with a shared goal of rewarding farmers who achieve high outcome performance. The farmers highlight the importance of investing in communication with trusted partners and support initiatives to strengthen the role of technical service providers, conservation districts, extension and farmer-to-farmer knowledge exchange. All elements of these programs can be considered alongside the recommendations listed in the VT PES Technical Research Report #6 prepared for the Vermont Soil Health PES Working Group. Where these proposals echo existing programs, the Working Group can additionally look at the strengths and weaknesses of these existing programs to consider how these elements can add to a Vermont PES program design. Additionally, the unique attributes of the farmer proposals should be further explored to identify how these ideas can help bridge some of the outstanding questions regarding PES systems.